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17. REDISCOVERY OF TWO RARE TYPHLOPIDS, *TYPHLOPS THURSTONI* BOETTGER, 1890 AND *T. TINDALLI* SMITH, 1943 FROM KERALA

(With four text-figures)

This is a report of the rediscovery of *Typhlops thurstoni* Boettger, 1890 and *T. tindalli* Smith, 1943 from Trichur district, Kerala state, southwestern India, during a herpetological survey conducted by the author.

Typhlops thurstoni Boettger, 1890

It was known from only four specimens in the Natural History Museum, London and one with the Zoological Survey of India (Murthy 1993). Unfortunately, collection details pertaining to the latter are not available. Originally described from the Nilgiris, it was reported from Trichur (Wall 1919) and from Wynaad in Kerala (Procter 1924). The present specimen was collected on August 18, 1997, from a coconut grove with laterite soil in Chavakkad, 28 km west of Trichur.

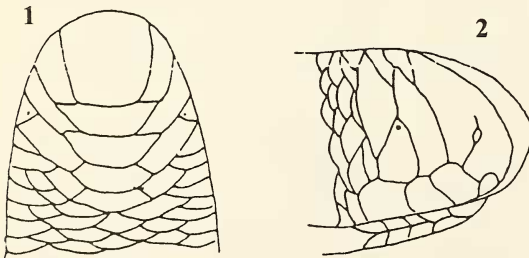
T. thurstoni is a small, active snake, light brown dorsally and pale brown ventrally, except for the snout and anal region which are whitish.

The margins of the scales are darker. The snout is rounded and strongly projecting. The rostral is $2/3^{\text{rd}}$ as broad as the head, and extends to the level of the ocular. The central portion of the rostral is studded with glands and is dark brown. The large nasal is incompletely divided by a suture starting from the second labial and ending just beyond the nostril. The anterior nasal is less than half the size of the posterior nasal. The prefrontal is half as broad as the head, in full contact with rostral, separating the posterior nasals. The frontal is as large as prefrontal, both are double the size of other body scales. Ocular and preocular shorter than nasal, the latter almost as broad as posterior nasal and in contact with prefrontal, frontal and supraocular, besides ocular and posterior nasal. Supraocular twice as broad as long. Smith (1943) stated that eyes are not 'distinguishable' in this species, but in the present specimen, they are distinguishable. The tail ends in a point. There are 20 scales around the body, the diameter of which is contained 71 times in the total length. Transverse scale rows: 481. Length: 215 mm. Diameter: 3 mm. The pholidosis is shown in Figs 1 and 2.

The present finding from Chavakkad was made 73 years after the last record by Procter (1924) from Wynaad.

Typhlops tindalli Smith 1943

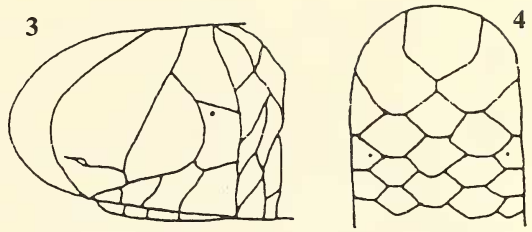
T. tindalli was first reported from Nilambur in Kerala by Boulenger (1893) who identified



Figs 1 & 2: Head scalation
Typhlops thurstoni Boettger

the specimen as *T. thurstoni*. Smith (1943) examined the three syntypes in the Natural History Museum, London and described them as *T. tindalli*. He also referred to *tindalli* Wall's (1919) specimen collected from Pilloor in Nilgiris and described as *T. beddomei*. Wall's specimen is lost and *T. tindalli* is known from the syntypes. Three more examples are with the Zoological Survey of India (Murthy 1993), but collection details are not available.

T. tindalli were collected from Kunnankulam, 24 km west of Trichur on December 18, 1996 and between July 15 and 19, 1997, one from a kitchen garden and four from coconut plantations with laterite soil. These specimens are uniformly pink in colour, except for the snout and anal regions, which are whitish. In preservative, the colour turned yellowish-white. They are not as active or hardy as *T. thurstoni*. The snout is rounded and strongly projecting. The rostral is 3/5th the width of the head, posteriorly triangular, scarcely reaching halfway to the level of the ocular. The nasal is incompletely divided into anterior and posterior nasals by a suture passing from the preocular to beyond the nostrils, almost touching the rostral. Anterior and posterior nasals both in contact with preocular. The posterior nasal is four times as large as anterior nasal and in contact with its fellow behind the rostral. Ocular is less than half the size of the preocular and touching 3rd and 4th labials, but not wedged between them. Supraocular twice as broad as long. Prefrontal and frontal only marginally larger than body scales. Eyes small, but distinguishable while alive, though Smith (1943) stated that eyes are not distinguishable. The tip of the tail is slightly swollen and rounded without a spine. There are 18 scales around the body, the diameter of which is contained 60-70 times in the total length. Transverse scale rows: 364 to 395. The pholidosis is shown in Figs 3 and 4 and measurements in Table 1.



Figs 3 & 4: Head scalation
Typhlops tindalli Smith

TABLE I
MEASUREMENTS OF *TYPHLOPS TINDALLI*

No.	1	2	3	4	5
Total Length	183	180	178	163	125
Diameter (mm)	2.5	2.5	2.5	2.5	2.0
Transverse Scale Rows	395	398	386	378	364

The present record has been made after an interval of 80 years since the last recorded finding by Wall (1919). While the earlier observations were from mountain areas such as Nilambur and Pillur in Nilgiris, at 600 m above msl, this record is an extension of range to the coastal plains of Kerala, over 100 km west of the known range.

The specimens of *T. tindalli* and *T. thurstoni* have been deposited in the Museum of the Wildlife Biology Dept, Kerala Forest Research Institute, Peechi, Kerala. Regn Nos KFRI (WL) R598 and R599, respectively.

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18. AMPHIBIAN FAUNA OF KUDREMUKH NATIONAL PARK, WESTERN GHATS, INDIA

In spite of the pivotal role played by amphibians in the trophic dynamics of various ecosystems, they have not been paid due attention in most biodiversity and ecological studies, especially in national parks and sanctuaries, where scientific studies are focussed on larger animals. India possesses a wide network of more than 69 national parks and 392 sanctuaries, covering about 4% of her geographical area (Nair 1996). However, amphibian studies have been done in a few sanctuaries and national parks only (Pillai and Pattabiraman 1991; Ray and Tilak 1994, Dueti 1996, George *et al.* 1996, Radhakrishnan 1996, Zacharias and Bhardwaj 1996). The Kudremukh National Park (KNP) (13° 10'-13° 26' N; 75° 5'-75° 10' E) is located in the central Western Ghats and covers Chickmagalur and Udipi districts of Karnataka. With a total area of 6,000 sq. km, the Park encompasses steep, densely forested slopes to gently undulating hills, with an average altitude of 1,000 m above msl), covers dense evergreen montane vegetation, shola forests, lowland forests and grasslands. A large number of streams, three major rivers, namely Tunga, Bhadra and Netravathi and their tributaries water the terrain. The Park is known for its thick and undisturbed vegetation, but the biotic information is largely restricted to its floristic

composition (Pascal 1988) and a few reports of large animals. Daniels (1992) detailed amphibian distribution in the Western Ghats, but an extensive amphibian fauna of KNP is not available. Hence, we present this checklist of amphibians, compiled from the results of the survey of Kerekatte, Gangamoola, Kadambi, Bhagavathi Forest, Malleswara and Naravi regions of KNP during 1996-99.

All possible habitats of the study area during premonsoon (February to May), monsoon (June to September) and postmonsoon (October to January) were surveyed in all three years. The amphibians were identified in the field, and the species confirmed with the taxonomic keys of Boulenger (1890, 1920), Parker (1934), Taylor (1968), Daniel (1963, 1975), Daniel and Sekar (1989), as well as the latest field guides of Daniels (1997), and Bhatta (1998). Specimens were compared with those in the collection of the Zoological Survey of India, Southern Regional Station, Chennai. Overall, 26 species belonging to 4 families of Anura and 2 families of Apoda were recorded. Voucher specimens have been deposited in the Bombay Natural History Society, Mumbai. The list of amphibian species encountered, their number (N) in the sample and mean SVL \pm sd., of the present study, are as follows: